

PATENT ABSTRACTS OF JAPAN

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(21)Application number : 63-239477 (71)Applicant : EAGLE IND CO LTD
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(54) METHOD FOR JOINING SILICON CARBIDE MATERIAL

(57)Abstract:

PURPOSE: To improve joining strength and reliability of the joining part of silicon carbide material by chemically treating the face to be joined of silicon carbide material and forming open pores a bonding agent to penetrate in and thereafter joining material to be joined.

CONSTITUTION: The face to be joined of silicon carbide material obtained by a reaction sintering method is chemically treated by strong alkaline chemicals or strong acidic chemicals. The components which are interposed between silicon carbide grains in the vicinity of the face to be joined of the above-mentioned silicon carbide material and can be dissolved out by the chemicals are removed by this treatment. In such a way, the open pores having prescribed depth are formed on the face to be joined of silicon carbide material and a joining agent holdable in a fluidized state is allowed to penetrate into the open pores and thereafter material to be joined is joined to this joining face. The open pores having a complex shape are formed on the surface layer part of silicon carbide material by performing joining in the above method. The bonding agent or the material to be joined is introduced into the open pores and thereby both silicon carbide material and the material to be joined can be tightly joined by so-called anchoring action.

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